

WHAT IS CLAIMED IS:

- 10076757 "021402
1. A printed circuit board assembly including:  
a first circuit board having a first device side, the first device side  
having a first portion configured to mount a first plurality of semiconductor devices;  
a second circuit board having a second device side, the second device  
5 side having a second portion configured to mount a second plurality of semiconductor  
devices, the second circuit board disposed in confronting parallel relationship to the  
first circuit board; and  
a border interposed between the first and second boards and disposed  
around the respective first and second portions, the border element cooperating with  
10 the first and second boards to form a liquid-tight container, the border formed with an  
inlet to receive an electrically nonconducting liquid and an outlet for discharging the  
liquid.
  2. A printed circuit board assembly wherein the first and second circuit  
boards comprise channel cards for use in a semiconductor tester.
  3. A printed circuit board assembly wherein the border comprises:  
a border element having a thin metallic wall of a uniform height and  
respective top and bottom sealing edges; and  
respective first and second seals disposed between the top and bottom  
5 sealing edges and the first and second device sides.
  4. A printed circuit board assembly wherein the first and second printed  
circuit boards have devices mounted solely on the first and second device sides.

10076757-021402

5. Automatic test equipment including:  
a computer workstation; and  
a testhead adapted for being carried by a manipulator, the testhead including a plurality of printed circuit board assemblies, each of the plurality of circuit  
5 board assemblies including  
a first circuit board having a first device side, the first device side having a first portion configured to mount a first plurality of semiconductor devices;  
a second circuit board having a second device side, the second  
10 device side having a second portion configured to mount a second plurality of semiconductor devices, the second circuit board disposed in confronting parallel relationship to the first circuit board; and  
a border interposed between the first and second boards and disposed around the respective first and second portions, the border cooperating with  
15 the first and second boards to form a liquid-tight container, the border formed with an inlet to receive an electrically nonconducting liquid and an outlet for discharging the liquid.
6. Automatic test equipment according to claim 5 wherein the border comprises:  
a border element having a thin metallic wall of a uniform height and respective top and bottom sealing edges; and  
5 respective first and second seals disposed between the top and bottom sealing edges and the first and second device sides.
7. Automatic test equipment according to claim 5 wherein the first and second printed circuit boards have devices mounted solely on the first and second device sides.

8. A method of cooling a plurality of electronic devices, the method including the steps:

mounting the electronic devices on confronting sides of a pair of printed circuit boards, the circuit boards placed in a parallel stacked relationship;

5 interposing a border between the circuit boards and around the  
electronic devices, the border cooperating with the boards to establish a liquidtight  
container; and

immersing the electronic devices into an electrically nonconducting liquid inside the container.